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United States Patent [19]**Ford**[11] **Patent Number:** **5,274,861**[45] **Date of Patent:** **Jan. 4, 1994**[54] **GRAY WATER RECYCLING SYSTEM**[75] **Inventor:** **Ronald K. Ford, La Jolla, Calif.**[73] **Assignees:** **Michael Bell, Encino; Melanie Chartoff, Los Angeles, both of Calif.**[21] **Appl. No.:** **990,130**[22] **Filed:** **Dec. 14, 1992****Related U.S. Application Data**[62] **Division of Ser. No. 739,821, Aug. 2, 1991, abandoned.**[51] **Int. Cl.⁵** **A47K 4/00**[52] **U.S. Cl.** **4/665; 137/625.46; 137/625.47**[58] **Field of Search** **4/546, 559, 597, 602, 4/603, 605, 665, 287; 137/625.46, 625.47**[56] **References Cited****U.S. PATENT DOCUMENTS**

1,894,407	1/1933	Lutsky	4/287
2,185,037	12/1939	Powers	4/287 X
3,618,637	11/1971	Santomieri	137/625.47
4,162,218	7/1979	McCormick	4/665 X
5,035,011	7/1991	Rozenblatt et al.	4/665
5,092,003	3/1992	Weinberg	4/665 X
5,106,493	4/1992	McIntosh	4/665 X

FOREIGN PATENT DOCUMENTS

2336744	2/1975	Fed. Rep. of Germany	4/665
0300427	12/1990	Japan	4/665

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[57] **ABSTRACT**

A gray water recycling system directs gray water from a fixture to either a sewer line or a holding tank. The system includes a drain valve assembly that is controlled at the fixture and that selects between allowing water to flow into a drain pipe and then into the sewer line or allowing water to flow into a holding tank line to a pump and then into the holding tank. The drain valve assembly can be used with conventional fixtures such as sinks, tubs, and showers, using many standard fittings that are readily available. In an embodiment especially useful with sinks having a plug that is raised and lowered, the solid plug of a conventional sink is replaced with a hollow tube that communicates with the holding tank line. In another embodiment especially suited for showers and sinks with rotatable catch cups, the valve assembly includes two, nested valve bodies that rotate relative to each other to align valve body ports that alternately direct water into the sewer line or into the holding tank line.

3 Claims, 5 Drawing Sheets